

Abstract of the Disclosure

A method for analyzing blood enables one to isolate, detect, enumerate and confirm under magnification the presence of target cells which have expressed surface epitopes that indicate intracellular infection by various viruses or other infectious agents, and also cells which have expressed surface epitopes that indicate the presence of non-infectious medical conditions. The analysis involves the examination of cells in the blood sample for the presence or absence of particular surface epitopes while the blood sample is disposed in a centrifuged blood sampling container. The epitopic analysis for the presence or absence of infected cells, or cells which indicate the presence of non-infectious medical conditions relies on the detection of known target expressed epitopes. The target epitopes on the target cell types are epitopes which are also known to be absent on normal circulating cells in the blood. Fluorophores or other labels with distinct wavelength emissions are coupled with specific binding agents such as lectins, antibodies, aptamers, or the like, which are directed against the target expressed epitopes. The epitopic analyses may be performed in or near the expanded buffy coat layer in the centrifuged blood sample. The epitopic analysis may be performed under magnification either visually and/or photometrically. The blood sampling container is sized to hold between about 1 and about 20 ml, preferably about 10 ml of blood, and contains an insert that occupies about 90-98% of the volume of the container bore in the area of the container where the target cells will, if present, be detected. The insert forces the target cells in question to reside in an annular space in the container which is adjacent to the circumference of the container bore. The entire analysis can be performed in a relatively short period of time which is typically a matter of minutes to single digit hours.